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Seroepidemiological Survey of Visceral Leishmaniasis among asymptomatic adults in an endemic area of northwestern Iran

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Background & Aim: Visceral leishmaniasis (VL), or kala-azar caused by some species of *Leishmania donovani* complex, is endemic in southern Iran. The disease generally transmitted by the bite of female sand fly. A cross-sectional study was designed to determine the seroprevalence of VL among asymptomatic adult population in Meshkin-Shahr area from north-west of Iran as an endemic focus of VL.
Methods & Materials: A total of 180 blood samples were collected from asymptomatic adults' population during February 2015 to January 2016 for a period one year. Before sampling, a questionnaire was separately completed for each individual before the test. All the collected blood samples were examined by direct agglutination test (DAT) after plasma separation. Anti-*Leishmania infantum* antibodies at titers 1:100 to 1:1600 was considered as *Leishmania infantum* infection while, the cut-off titer of ≥1:3200 with specific signs and symptoms was considered as VL.
Results: From 180 collected plasma samples, nine cases (5%) showed anti_L*eishmania* antibodies in at titers 1:400, 1:800, 1:1600. Two cases presented a titer of 1:400, four had a titer of 1:800 and three cases had a titer of 1:1600. All of seropositive cases were observed in females group and nobody had previous history of disease or remembered it in the past.
The highest seropositivity rate was observed among age group of 13-23 years old. No changes in titers of anti-Leishmania antibodies observed after collected the seropositive blood samples again and tested by DAT with one month interval.
Due to any apparent clinical symptoms has been observed in seropositive subjects, we resulted that subjects just contact with parasite but they don't get any active disease therefore the present investigation found asymptomatic subjects in study region.
Conclusion: Visceral Leishmania infection is relatively high among adult people lived in Meshkin-Shahr area without any clinical symptoms. Asymptomatic VL infection is very important in immunocompromized individuals such as HIV-positive cases, these patients are at risk to manifesting clinical signs and symptoms of VL. Therefore continuing serological surveillance for detection of visceral Leishmania infection should be recommended in the endemic foci of VL.
Keyword(s): Visceral leishmaniasis, Seroprevalence, Direct agglutination test, adult, Iran